

JUN 8 2007

DRAFT ENVIRONMENTAL ASSESSMENT

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**ANDRADE CAMP WATER SYSTEM IMPROVEMENTS**

**DWS JOB No. 2006-889**

***Makahalanaloa and Pepeekeo, District of South Hilo, Hawaii***

---

Prepared for:

**Department of Water Supply**  
County of Hawaii  
345 Kekuanaoa Street  
Suite 20  
Hilo, Hawaii 96720

May 2007

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Prepared in Partial Fulfillment of the Requirements of Chapter 343, Hawaii Revised Statute  
and Title 11, Chapter 200, Hawaii Administrative Rules, Department of Health, State of Hawaii

Prepared for

**Department of Water Supply**  
**County of Hawaii**  
345 Kekuanaoa Street, Suite 20  
Hilo, Hawai'i 96720

Prepared by

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Hilo, Hawai'i 96720

May 2007

## PROJECT PROFILE

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Proposed Action:	Andrade Camp Water System Improvements Makahalanaloa and Pepeekeo, District of South Hilo, Hawai'i
Applicant:	Department of Water Supply County of Hawaii 345 Kekuanaoa Street, Suite 20 Hilo, Hawai'i 96720
Approving Agency:	Department of Water Supply County of Hawaii 345 Kekuanaoa Street, Suite 20 Hilo, Hawai'i 96720
Need for Assessment:	Propose the Use of County Funds Hawaii Administrative Rules §11-200-6(b)(2)(B)
Tax Map Key:	2-8-004:002 and 2-8-007: Various Land Area: Approximately 37,500 square feet
Land Owner:	Continental Pacific (Andrade Camp Road Easement) County of Hawaii and Richard Ha (Cinder Road Easement)
Existing Use:	Road right-of-way and Easement
State Land Use Designation:	Agricultural and Urban
Zoning:	A-20a, RS-7.5 (Andrade Camp)
Special Management Area:	Outside Special Management Area
Anticipated Determination:	Finding of No Significant Impact
Contact:	Jason Killam Department of Water Supply County of Hawaii 345 Kekuanaoa Street, Suite 20 Hilo, Hawai'i 96720  Telephone: (808) 961-8070 x 249

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## DESCRIPTION OF THE PROPOSED PROJECT

1

### A. Introduction

Andrade Camp is served by the Department of Water Supply's Pepeekeo Water System. The original Andrade Camp water system dates back to the plantation days but the year the system became operational cannot be determined. In 2004, C. Brewer upgraded the piping to HPDE ("High Density Polyethylene") and added sub-meters for the residences.

Twenty-eight residences and two agricultural users are currently hooked up to the water system (Department of Water Supply, 2006). All lots are serviced by one (1) master meter with one account.

When C. Brewer divested itself of the water system, a temporary Private Water System was put into place to serve the Andrade Camp residents. The long-range goal was to become part of the county water system with each residence separately metered. In addition, the upgraded water line would provide water for fire protection which the existing line cannot provide.

Data provided by the Department of Water Supply indicate that the average daily usage is 13,200 gallons per day and the maximum daily demand 17,700 gallons per day. The Department also indicated that the Andrade Camp water system is losing approximately 31,000 gallons per month through leakage.

The purposes of the project, therefore, are to connect the Andrade Camp water system to the County of Hawaii's Pepeekeo System, provide fire flow for fire protection, and stop leakage within the system.

### B. Technical Characteristics

The Department of Water Supply proposes to install a new water line between the end of Kumula Street (a county road), through Andrade Camp, and on to the location of a master meter located along a cinder road *mauka* of Andrade Camp. The master meter is on a 0.78 acre lot identified as TMK: 2-8-004: 002 (See Figures 2a and 2b). The cinder road is a roadway easement in favor of the County of Hawaii and Richard Ha, who operates a large banana farm adjoining the roadway easement.

Approximately 3,900 LF of 6-inch ductile iron pipe will be installed within existing road rights-of-way and easements. The easement through Andrade Camp is 30-feet wide and 50-feet wide along the cinder road. A Preliminary Plan is shown in Figures 3a, 3b, and 3c. The exact placement of the water line will be determined after the existing water line has been located. The new water line will be placed on the opposite side of the existing line within the respective easement. Following construction, the existing HPDE water line will be removed from service and abandoned in place.

The contractor will use a cut and cover construction method. A trench along the selected alignment will be excavated, sections of water line installed, and the trench partially backfilled to support the pipe. Installation will proceed for a pre-determined distance and then the line will be pressure tested. After testing, the section of exposed pipe will be

covered and the trench backfilled. This process will repeat itself until the entire line has been installed. Disturbed areas along the affected roads will be restored to pre-construction conditions.

New fire hydrants installed within Andrade Camp will be spaced per Hawaii County Fire Department and Department of Water Supply requirements.

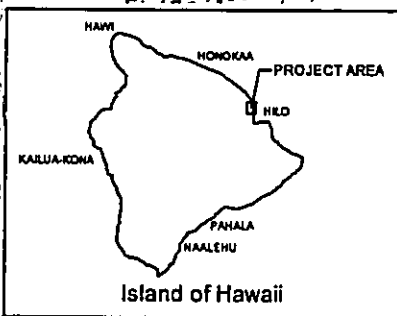
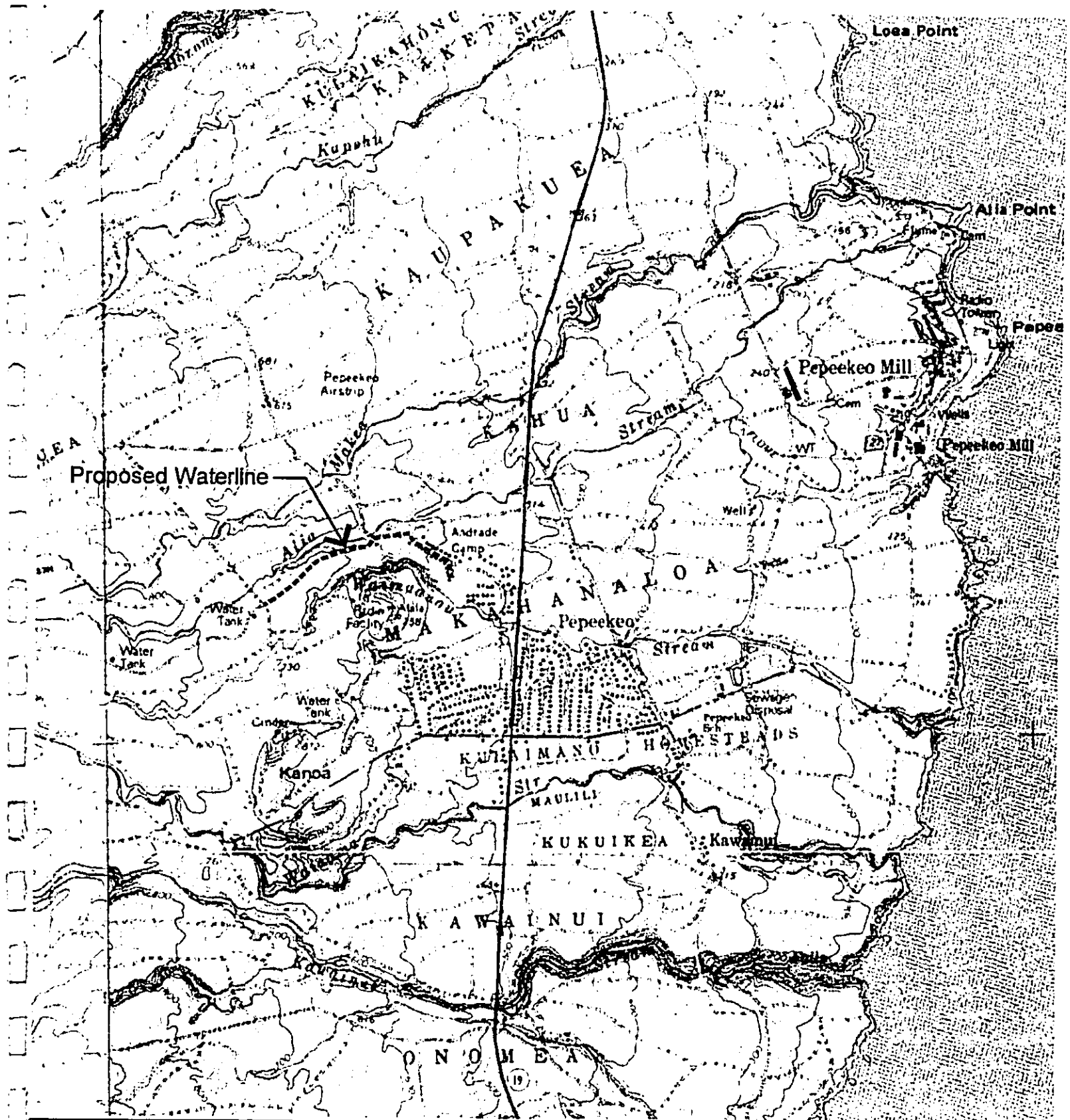
The contractor will install new water meters. The customer will then be responsible for the connection to the new meters.

Following installation, sections of the pipeline will be filled with water and pressure tested. After pressure testing, the pipe will be disinfected and water discharged at locations to be determined by the Contractor. The volume of testing water is estimated at 52,000 gallons. Pressure testing and chlorinated water used to disinfect the pipeline will be discharged along the right-of-way at a location selected by the Contractor.

#### **C. Economic Characteristics**

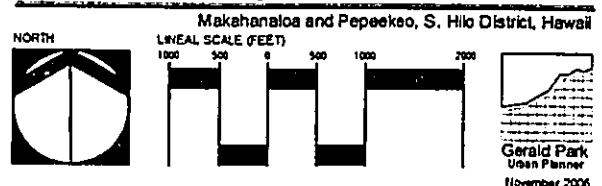
The construction cost of the project is estimated at \$0.7 million. The Department of Water Supply has requested a loan from the U.S. Department of Agriculture, Rural Utilities Service to fund the project.

The water line will be constructed in one phase that will commence after all approvals are received. The project should be completed within 6 months after a Notice to Proceed is issued.

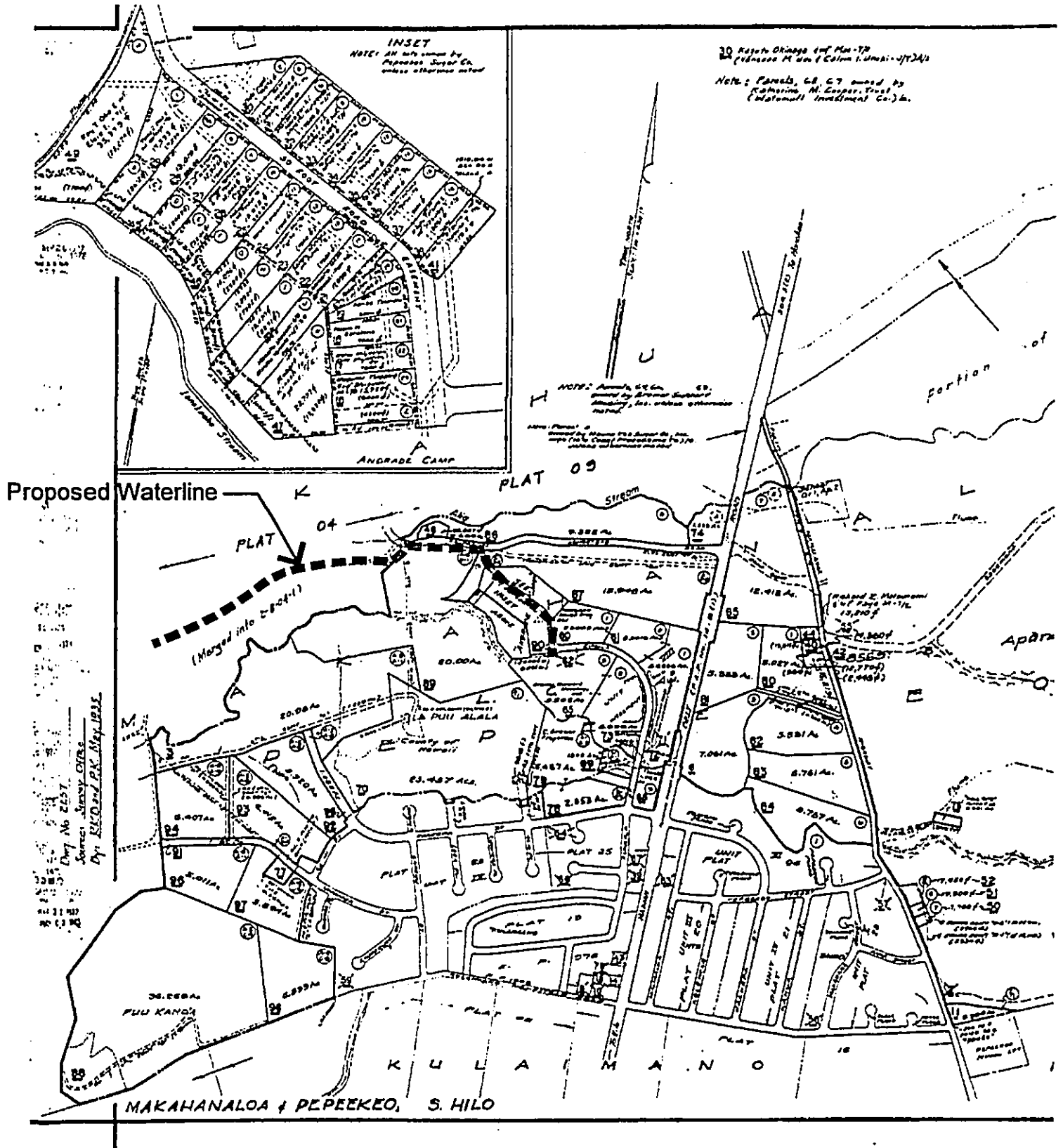


Source: USGS, Hilo Quadrangle

Figure 1  
Location Map  
Andrade Camp Water  
System Improvements



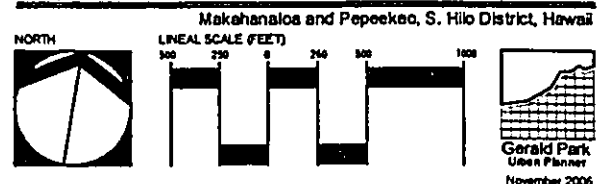


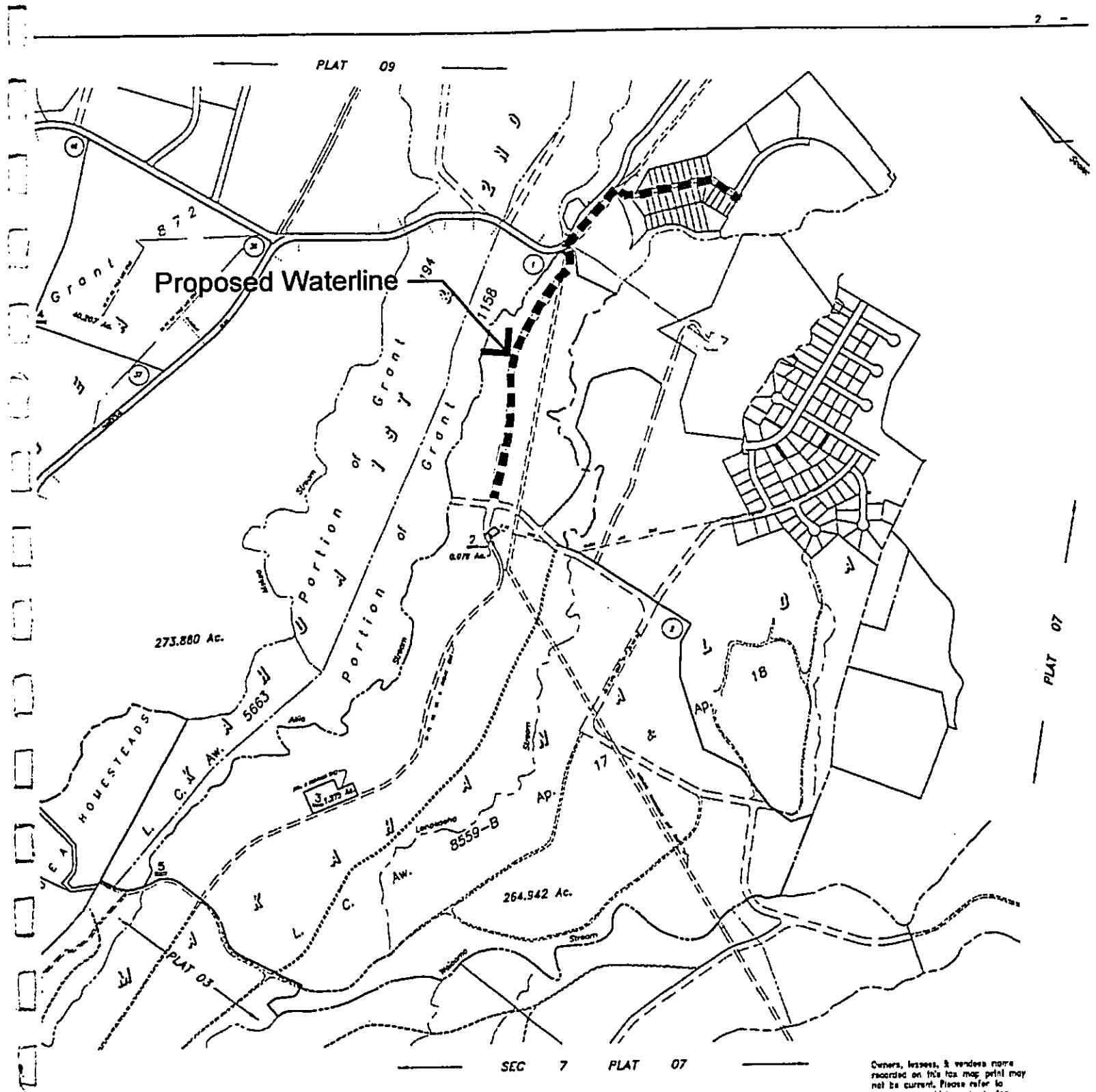


THIRD DIVISION		
ZONE	SEC.	PLAT
2	8	07
CONTAINING		PARCELS
Scale: AS NOTED		

Source: Department of Taxation, Taxation Maps Bureau

Figure 2a  
Tax Map  
Andrade Camp Water  
System Improvements





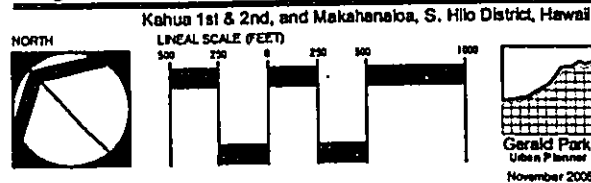
Owners, lessees, & vendees name recorded on this tax map print may not be current. Please refer to computer and history sheets for current owners.

FOR PROPERTY ASSESSMENT PURPOSES - SUBJECT TO CHANGE

Figure 2b  
Tax Map  
Andrade Camp Water  
System Improvements

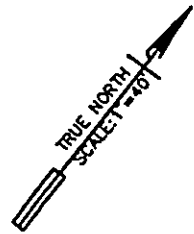
DEPARTMENT OF FINANCE PROPERTY ASSESSMENT DIVISION MAPPING BRANCH STATE OF HAWAII TAX MAP		
COUNTY OF HAWAII		
ZONE	SECTION	PLAT
2	8	04
SCALE: 1 IN = 400 ft.		

Source: Department of Taxation, Taxation Maps Bureau

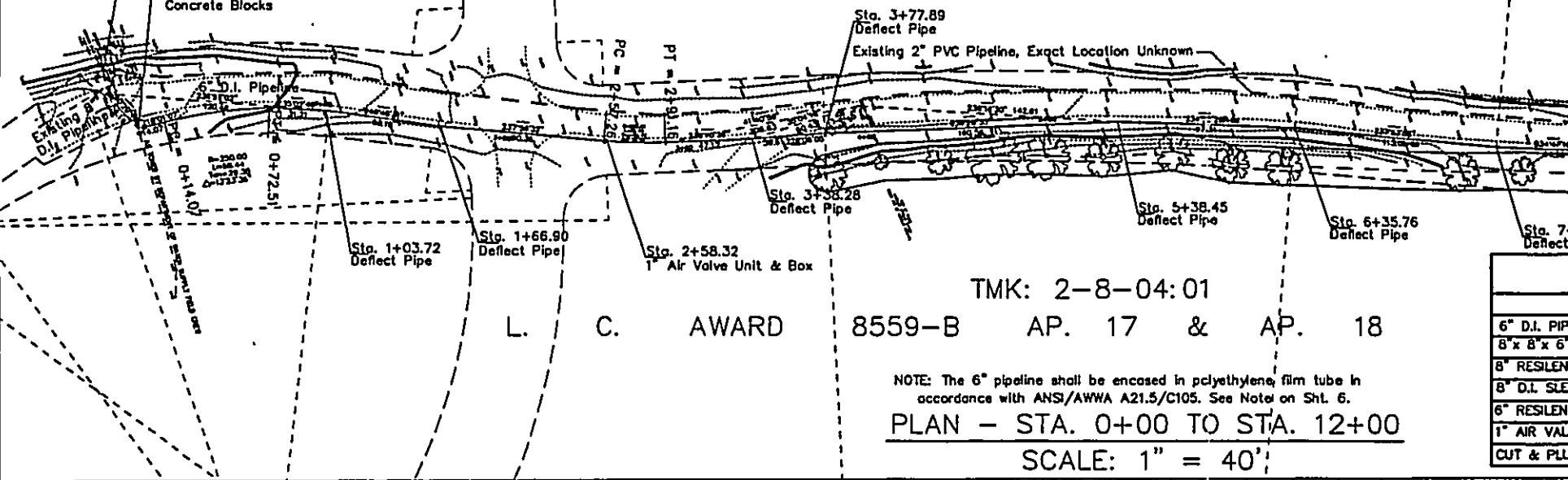


TMK: 2-8-04:01

PORTION OF



Cut & Plug existing 2" Service  
 STA. 0+00-BEGIN PIPELINE  
 Make Connection to existing  
 8" D.I. Pipeline  
 1-8" x 8" x 6" D.I. Tee, M.J. w/6" R.G.  
 2-8" Resilient Wedge Gate Valve & Box  
 2-8" D.I. Sleeve, M.J.  
 1-6" Resilient Wedge Gate Valve, M.J.  
 w/R.G. & Valve Box  
 1-1" Air Valve Unit & Box  
 Concrete Blocks



TMK: 2-8-04:01

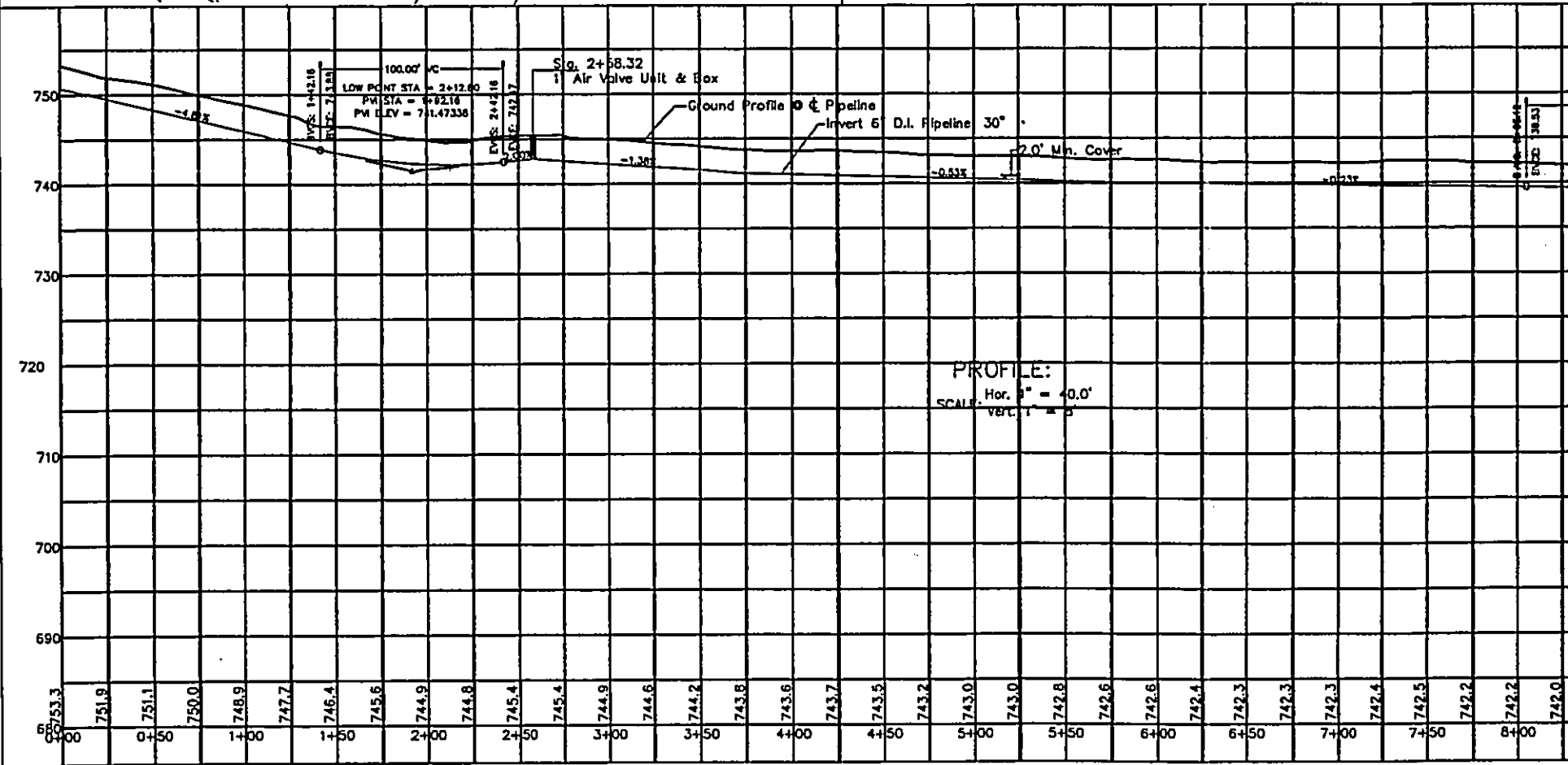
8559-B AP. 17 & AP. 18

NOTE: The 6" pipeline shall be encased in polyethylene film tube in accordance with ANSI/AWWA A21.5/C105. See Note on Sht. 6.

PLAN - STA. 0+00 TO STA. 12+00

SCALE: 1" = 40'

6" D.I. PIPE
8" x 8" x 6"
8" RESILIENT
8" D.I. SLEEVE
6" RESILIENT
1" AIR VALVE
CUT & PLUG



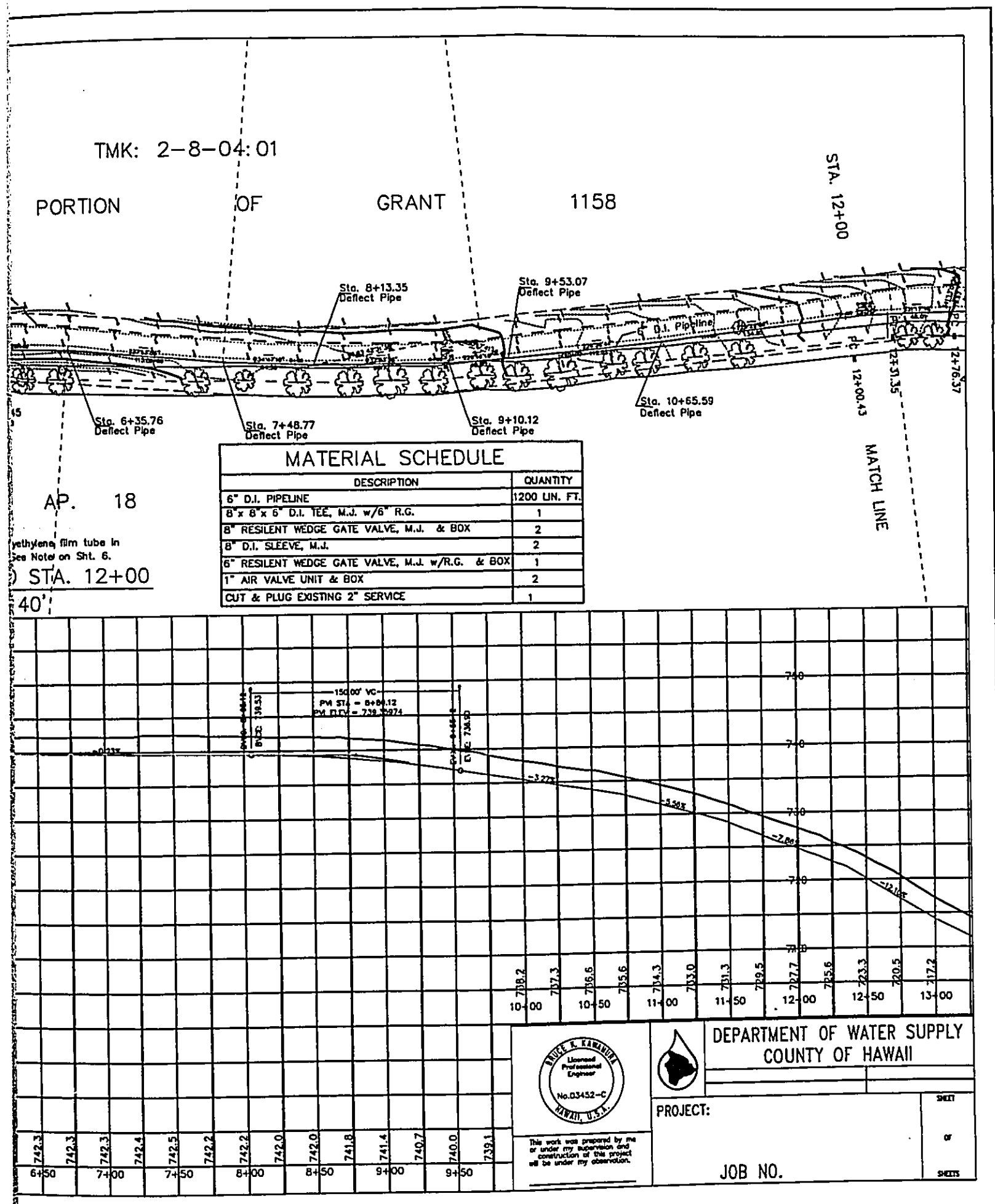
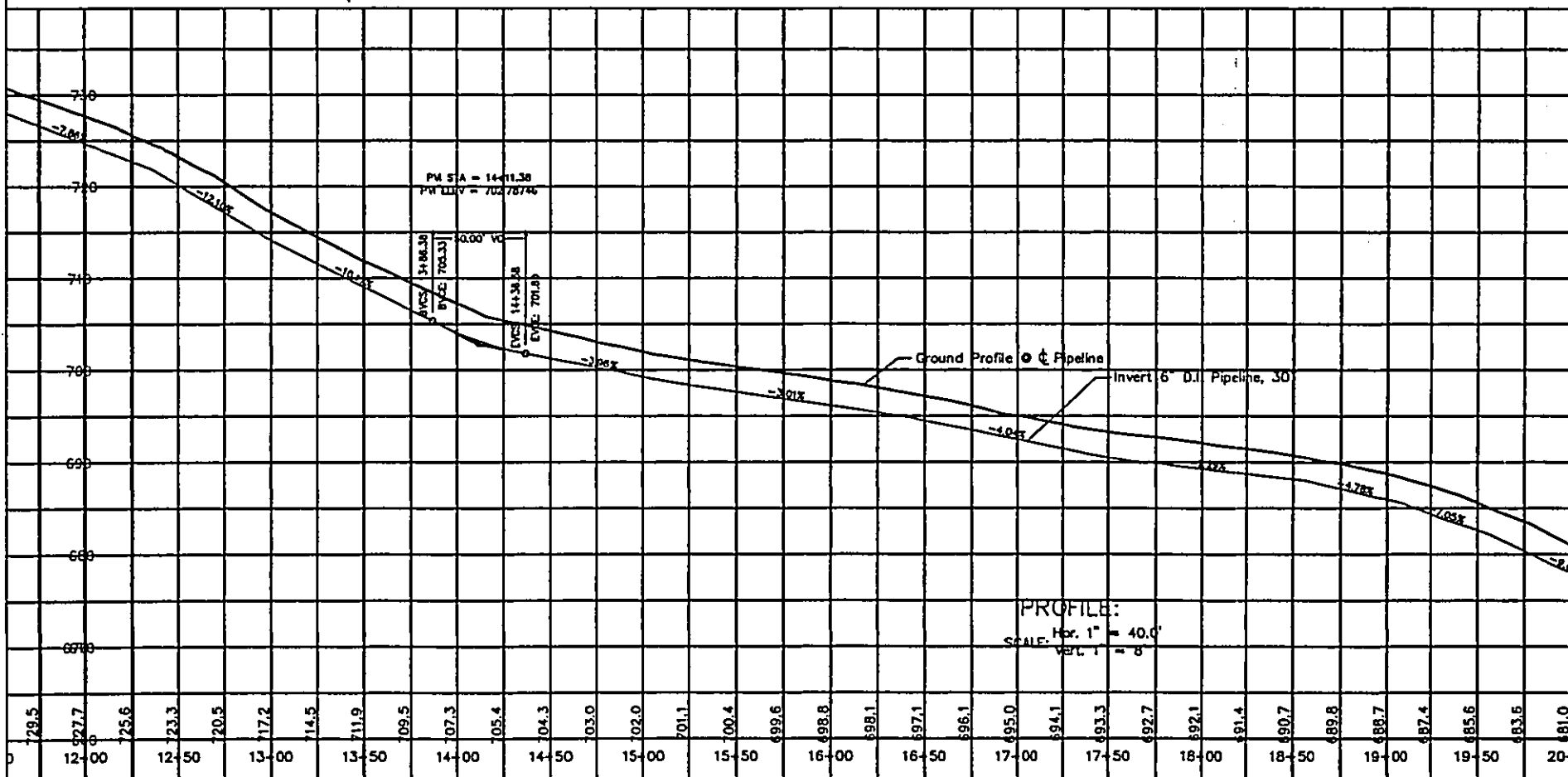
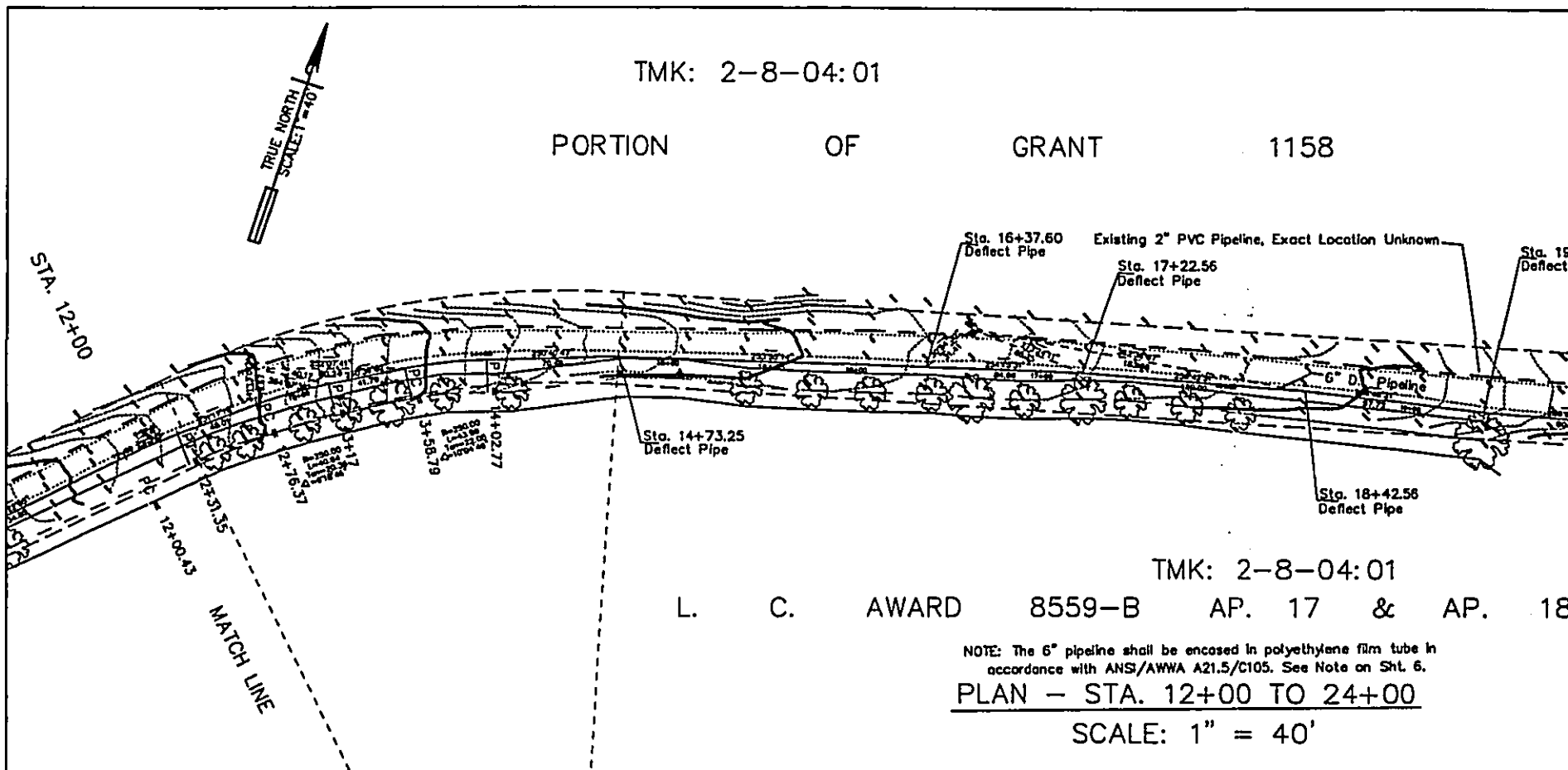


Figure 3a



1158

ne, Exact Location Unknown

Sta. 19+40.28  
Defect Pipe

1 1/2" Service Connection,  
Type "C" w/ 1 1/2" Service Saddle  
and Reduced Pressure Backflow  
Backflow

Sta. 18+42.56  
Defect Pipe

Sta. 20+95.53  
Defect Pipe  
1-6" Resilient Wedge  
Gate Valve & Box

Sta. 22+71.54  
Defect Pipe

Sta. 23+38.33  
1-6" 22 1/2 D.I. Bend, M.J.  
Concrete Block

Sta. 23+67.57  
Defect Pipe

Sta. 24+13.41  
1-6" Fire Hydrant  
Layout "A"

1" Service Connection,  
Type "A"

Sta. 22+40.54  
Defect Pipe

Sta. 22+29.10  
Defect Pipe

MATCH LINE

### MATERIAL SCHEDULE

DESCRIPTION	QUANTITY
6" D.I. PIPELINE	1200 LIN. FT.
6" RESILIENT WEDGE GATE VALVE, M.J. w/R.G. & BOX	1
1 1/2" SERVICE CONNECTION, TYPE "C" w/ 1 1/2" SERVICE SADDLE	1
6" 22 1/2 D.I. BEND, M.J.	1

2-8-04:01

17 & AP. 18

In polyethylene film tube in  
105. See Note on Sht. 6.

TO 24+00

= 40'

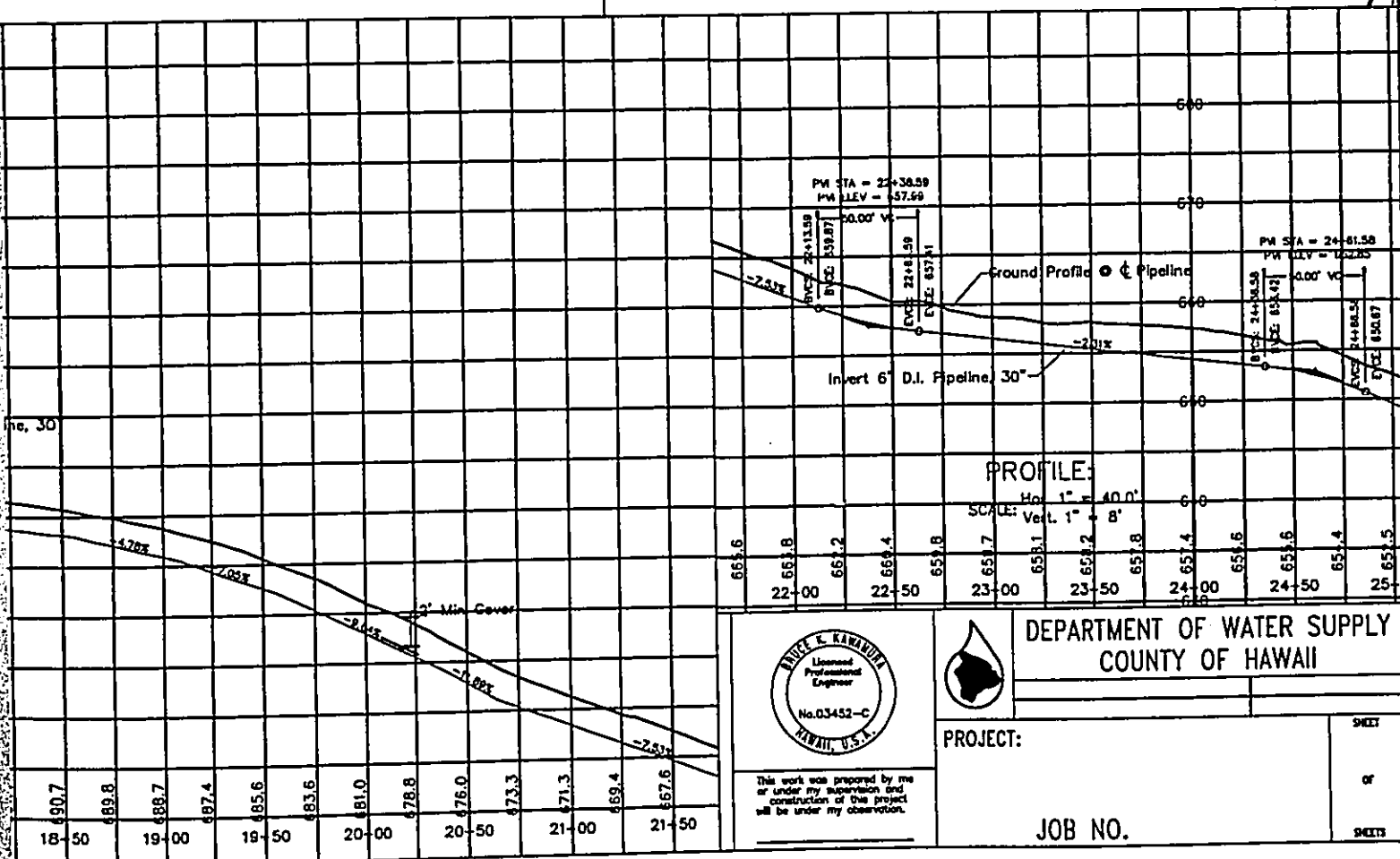
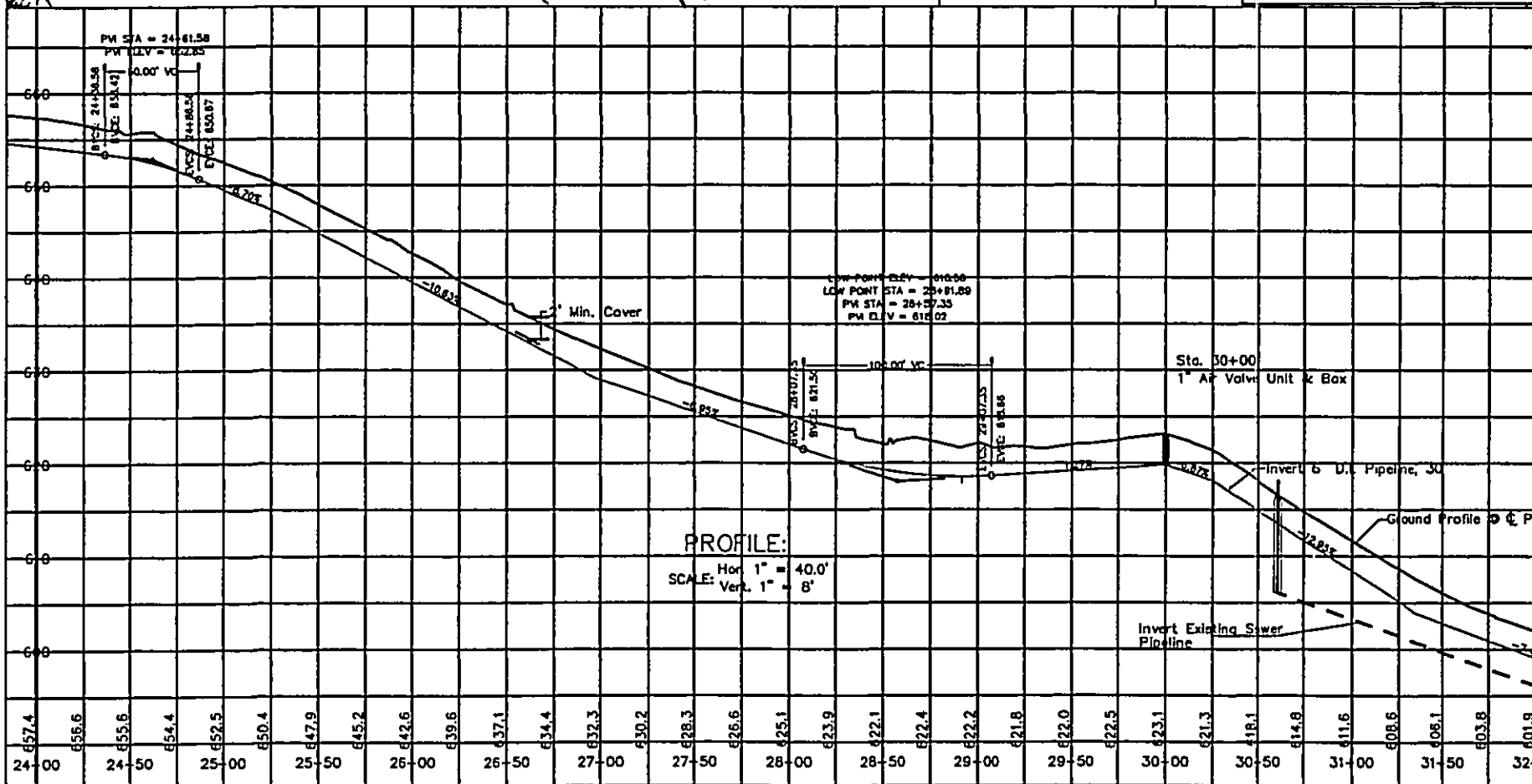
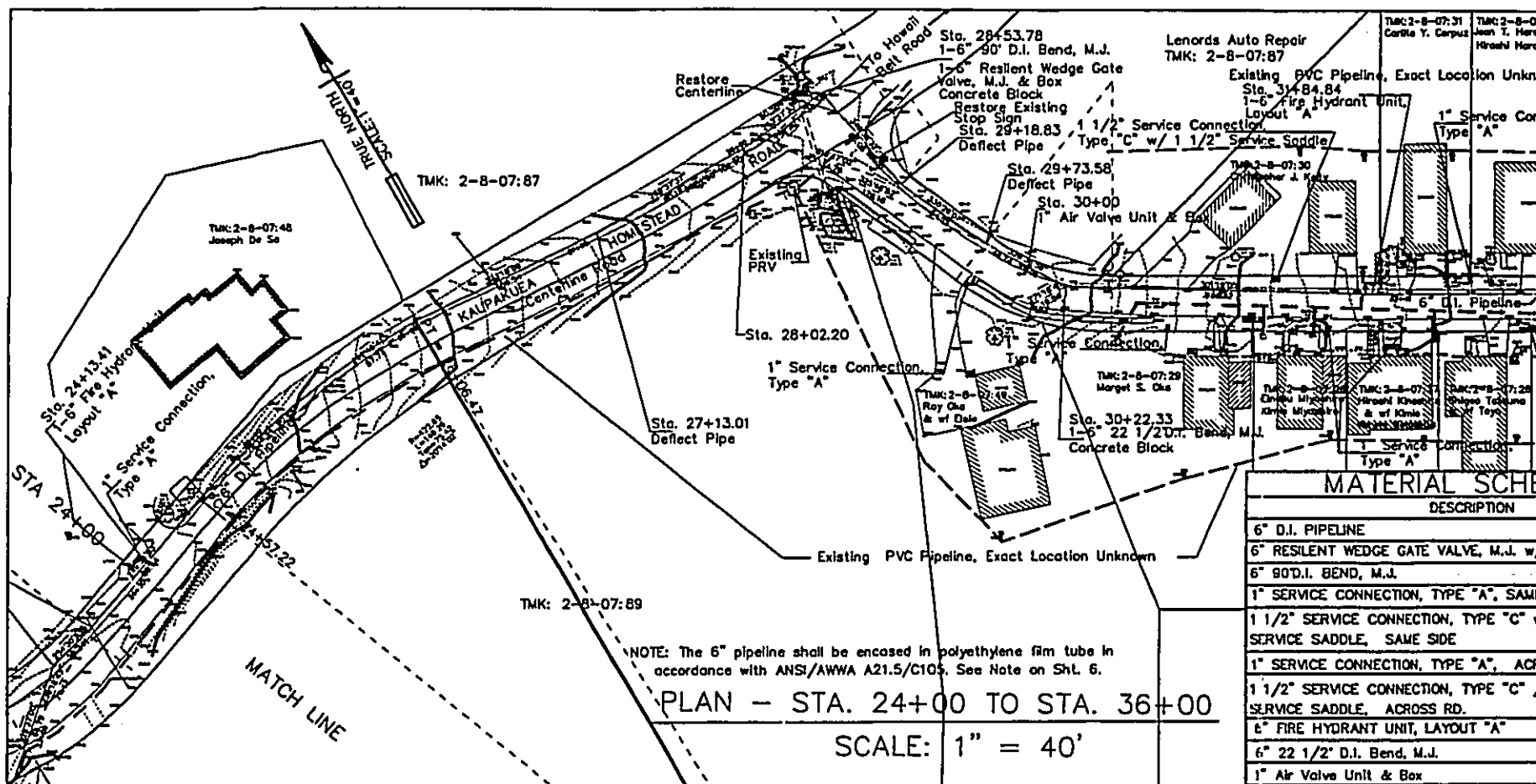


Figure 3b







## EXISTING CONDITIONS

2

### A. Environmental Conditions

#### 1. Soils and Agricultural Rating

The Soil Conservation Service (1973) maps two soil types—Hilo silty clay loam 10-20% slopes and Kaiwika silty clay loam 10-20% slopes—occurring in the vicinity of Andrade Camp. A third soil type, Rough broken land, occurs sporadically. Hilo soil comprises approximately 90% of the project area and Kaiwika soil about 10%. The two soils are rapidly permeable, runoff is slow, and the erosion hazard is slight. The soils are used for sugarcane, truck crops, orchards, and pasture.

The Land Study Bureau (1965) Detailed Land Classification maps and publications provide an analysis of lands and their suitability for agricultural production. A range of factors including soils, geology, topography, climate, and water resources were analyzed and a rating scheme for assessing overall agricultural productivity developed. Lands are classified from "A" to "E" according to their agricultural suitability with "A" indicating a master productivity rating of very good, and "E" indicating a rating of very poor for agricultural uses.

Three land types—C43, C76, and D77—are identified in the project area (Land Study Bureau, 1965). The capital letter is the master productivity rating of the overall suitability of the land for agricultural production and the number identifies the type of land. "C" and "D" master productivity ratings mean the land is fair and poorly suited for agriculture, respectively. Most of the agricultural land in the vicinity of Andrade Camp is rated "C" indicating the land is fairly suited for agricultural use.

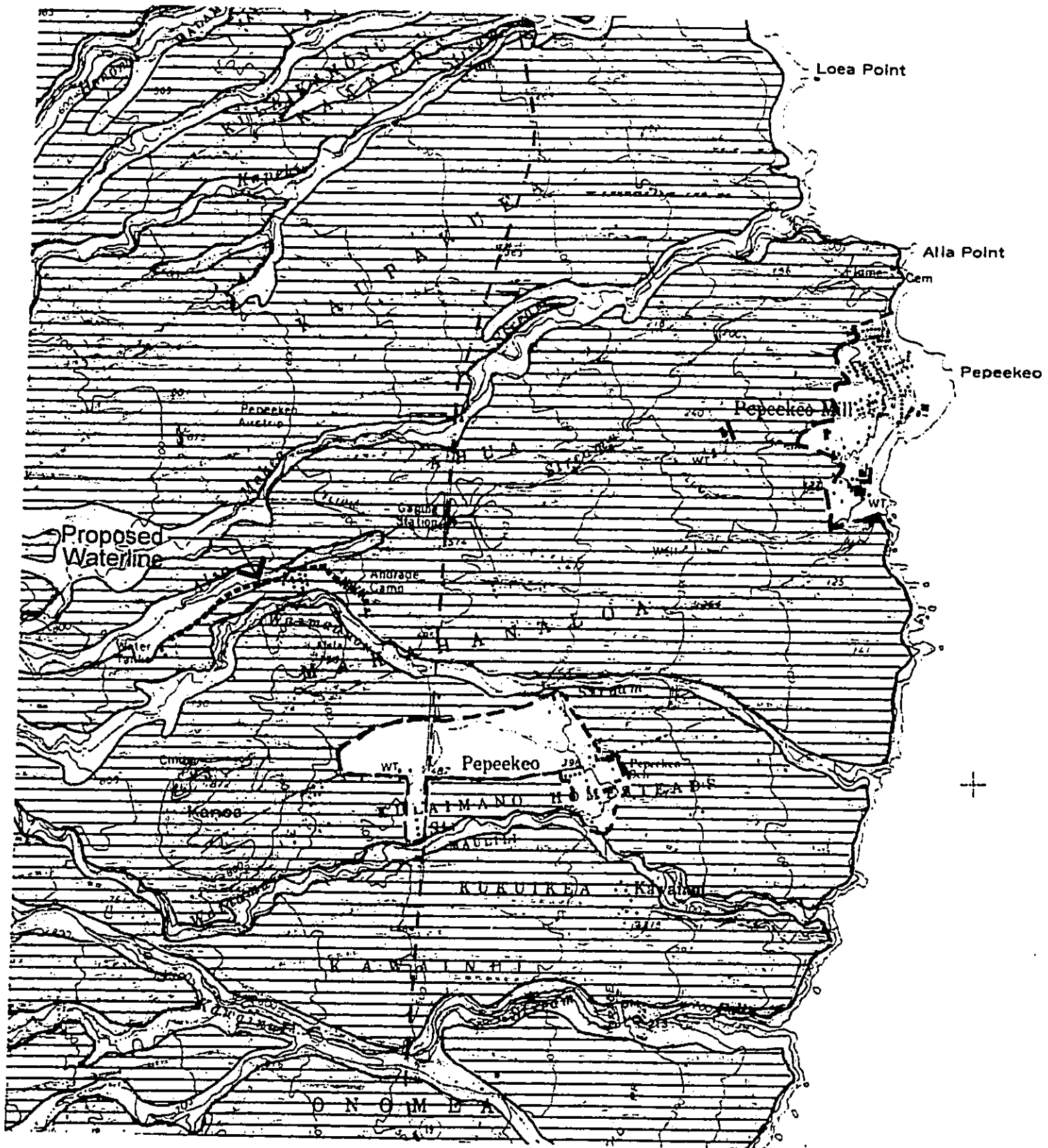
Agricultural Lands of Importance to the State of Hawaii (ALISH) maps have been prepared by the State Department of Agriculture to determine the agricultural importance of agricultural property within the State of Hawaii. The ALISH maps provide three agricultural land designations: Prime, Unique, and Other Important Agricultural Lands.

Agricultural land surrounding and including Andrade Camp is designated Prime agricultural land on the ALISH map for this section of Hawaii County (See Figure 4). Prime agricultural land is defined as land which has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farm methods (ALISH, 1977).




#### 2. Floodplains

A Flood Insurance Rate Map panel has not been printed for this area and, the Federal Emergency Management Agency notes, "Panel not printed; Area All in Zone X". Zone "X" is defined as "areas determined to be outside the 500 year flood plain (FEMA, 1994)".

No drainage structures were observed during a field inspection and the County has no plans on file for drainage improvements when the subdivision was built. Given its location in a generally low-density, undeveloped agricultural area, surface runoff probably percolates into the underlying ground or collects in low spots alongside the road or on the land until it evaporates or percolates into the ground.

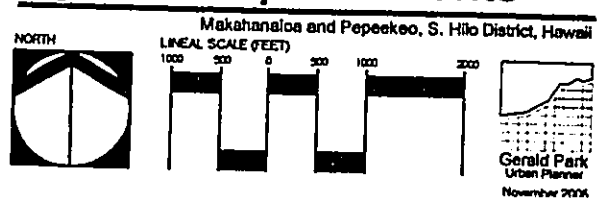


**Legend**

-  Prime Agricultural Land
-  Unique Agricultural Land
-  Other Important Agricultural Land

Source: Department of Agriculture, State of Hawaii, 1977.

Figure 4  
Agricultural Lands of Importance  
to the State of Hawaii  
**Andrade Camp Water  
System Improvements**



### 3. Wetlands

There are no rivers, streams, lakes, ponds, or wetlands within the project area.

### 4. Archaeological and Cultural Resources

No archaeological or cultural features were observed within the road right-of-way and easements where the new pipeline is to be placed.

The State Historic Preservation Division (Correspondence 2006) recommended that "a comprehensive review of the camp itself, which if over 50 years old, qualifies as an historic property, as well as the potential for archaeological remains, both historic and prehistoric, to be present both on the surface and subsurface in areas likely to be affected by this project".

Attempts to discuss the need for an archaeological survey with the State archaeologist for the island of Hawaii were not successful. Because the project is proposed within a residential area and through cultivated farm land that have been previously disturbed, the project area has low potential for uncovering archaeological features.

### 5. Biological Resources

Flora within Andrade Camp consists of common ornamentals typically used in residential landscaping. Ornamentals include grassy lawns, shrubs such as ixora, croton, jade plant, and hibiscus. Sago palm, Manila palm, autograph tree, and cypress are either planted in the ground or growing in containers. Mondo grass, azalaea, and kokutou are used in landscaping small oriental gardens. All observed flora are common to the State of Hawaii.

Flora growing along the cinder road consists primarily of roadside weeds, Guinea grass, California grass, guava, eucalyptus, juniper berry, and remnant sugar cane. Banana is commercially grown on the north side of the road.

Neither of the observed species are considered rare, threatened or endangered nor proposed for that status.

A faunal survey was not conducted. Given the developed residential character of the neighborhood, dogs, cats, and rodents are probably the most common animals present. Chirping birds were heard but not seen.

### 6. Coastal Resources

Coastal resources are not found in the project area. Andrade Camp (and the project area) is located approximately 3-4 miles to the west of the coastline.

### 7. Air Quality

There is no air quality monitoring stations in the vicinity of the proposed project. In the absence of quantifiable data, air quality in the project area is considered generally good. On occasion and depending on climatic conditions, the project area may be affected by "vog" or natural emissions from Hawaii's active volcanoes which oftentimes blanket sections of the island.

## **8. Noise**

Located in an agricultural area, the acoustical environment is characterized by sounds of nature to include the wind, rustling vegetation, and chirping birds. Owing in part to limited residential development and surrounding agricultural activity, it is presumed that sounds of vehicle traffic and perhaps barking dogs are common.

No significant noise generating activity was observed or heard during our field inspection.

### **B. Land Use Controls**

State and County land use controls for the project area include:

State Land Use Designation: Agricultural and Urban  
County of Hawaii General Plan: Important Ag Land, Low Density Urban  
Zoning: A-20a, RS-7.5 (Andrade Camp), RS-10, RM-3.5  
Special Management Area: Outside Special Management Area (See Appendix A)

The project area is not located in or near Formally Classified Lands to include national parks, natural landmarks, national historic sites and battlefields, state parks, wildlife refuges, or land administered by federal, state, and county agencies.

### **C. Public Facilities**

Andrade Camp can be accessed from the Hawaii Belt Road via Kumula Street on the south or Kaupakuea Homestead Road on the north. The Hawaii Belt Road is the only road along the north Hawaii coast.

Within Andrade Camp, the unnamed private road is a 30-foot easement owned by Continental Pacific. A cinder road from Kaupakuea Homestead Road leads to the master meter (See Photographs 1 and 2).

### **D. Socio-Economic**

Sugarcane cultivation was once the economic mainstay of Pepeekeo. With the closing of the Pepeekeo sugar mill and the general demise of commercial agriculture, independent growers are leading the way in putting former plantation land into alternative crops. The most common products are papaya and flowers.

Data from the 2000 Census reported a population of 1,697 people consisting of 443 families residing in the Pepeekeo Census Designated Place (CDP). The average family size was 3.20 persons. The reported median annual income per family was \$35,345. Approximately 16.9% of the families (75 families) had income below the poverty level. The income information suggests that the project may be located in a low-income community.



Photograph 1. Asphalt Road Through Andrade Camp (Typical).



Photograph 2. Cinder Road to Site of Master Meter (Typical).

## SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

3

The scope of the project was discussed with the Department of Water Supply and the consulting engineer. State and County agencies were contacted for information relative to their areas of expertise. Time was spent in the field noting site conditions and conditions in the vicinity of the property. The consultations and field investigations helped to identify existing conditions and features that could affect or be affected by the project. These conditions include:

- Agricultural lands within the project limits are designated Prime agricultural land by the State of Hawaii;
- There are no rivers, streams, lakes, ponds, wetlands, or coastal waters within the project limits;
- There are no rare, threatened, or endangered flora or fauna within the project limits;
- There are no recorded archaeological or cultural resources within the project limits;
- The project limits are not located in a flood hazard zone; and
- Water line improvements will be confined to road easements or rights-of-way.

### A. Short-term Impacts

Site work is a persistent source of fugitive dust. Frequent water sprinkling is probably the most effective dust control measure given the size of the site and the type and scale of proposed improvements. The contractor, however, may choose to implement other measures based on their experience with similar projects and job sites. The project is proposed in an area of heavy rainfall and frequent showers also may help in controlling fugitive dust.

The contractor will be responsible for general housekeeping of the site and for keeping adjacent areas free of mud, sediment, and construction litter and debris. Pollution control measures will comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health.

Like fugitive dust, construction noise cannot be avoided. The two road easements are bounded by residential and agricultural uses. Residential properties are considered noise sensitive areas and construction noise will clearly be audible as construction work takes place fronting occupied properties. Exposure to noise will vary by construction phase, the duration of each phase, and the type of equipment used during the different phases. Maximum sound levels in the range of 82-96 db(A) measured at 50 feet from the source would be generated by heavy machinery and pneumatic impact equipment during the site work or excavation phase. After site work is completed, reductions in sound levels, frequency, and duration can be expected during actual installation of the water line and post-installation activities.

Community Noise Control regulations establish maximum permissible sound levels for construction activities occurring within "acoustical" zoning districts. Based on the residential zoning for Andrade Camp, the project is considered to be located in the Class A zoning district for noise control purposes. The maximum permissible daytime sound level in the

district is 55 dBA (7:00 AM to 10:00 PM) (Chapter 46, Community Noise Control, 1996). For agricultural zoned land, the permissible noise level is 70 dBA all day.

In general, construction activities cannot exceed the permissible noise levels for more than ten percent of the time within any twenty minute period except by permit or variance. Any noise source that emits noise levels in excess of the maximum permissible sound levels cannot be operated without first obtaining a noise permit from the State Department of Health. Although the permit does not attenuate noise per se it regulates the hours during which excessive noise is allowed.

The general contractor will be responsible for obtaining the permit and complying with conditions attached to the permit. Work will be scheduled for normal working hours (7:00 AM to 3:30 PM) Mondays through Fridays. The contractor will also ensure that construction equipment with motors is properly equipped with mufflers in good operating condition.

Site work will expose soil thus creating opportunities for runoff and erosion. Trenching, grading, and soil stockpiling will be performed in accordance with erosion control ordinances of the County of Hawaii and approved grading plans. Best Management Practices (BMPS) for erosion and drainage control during construction will be prepared for review and approval by the Department of Public Works. Site work will not exceed one (1) acre in area thus a NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity is not required.

Excavated material will be stockpiled adjacent to the water line trench and used for backfill. Excess material will be hauled away to a disposal site or another job site for use as fill.

Should subsurface archaeological or cultural features be unearthed, work in the immediate area will cease and the State Historic Preservation Division notified immediately for disposition of the finds. If burials are unearthed, the State Historic Preservation Division and the Hawaii County Police Department will be notified.

Adverse effects on flora are not anticipated. None of the observed plants are considered rare, threatened, or endangered or proposed for that status.

Construction in the right-of-way will interrupt subdivision traffic, result in slightly longer travel times, and generally inconvenience motorists. These impacts cannot be avoided. At least one-half of the narrow subdivision right-of-way will be closed and traffic diverted to the other half during working hours. Depending on the location of residential dwellings with respect to the construction site, residents would be able to access their respective properties or the Hawaii Belt Road from either Kumula Street or Kaupakuea Homestead Road.

The Contractor will coordinate construction activities with residents to provide and maintain access to individual driveways.

Traffic cones or other directional devices will be placed in the roadway to guide vehicles around work areas. The contractor will implement measures to provide access past work sites and minimize the inconvenience to subdivision residents. These measures will include:

- Posting flagmen for traffic control around work sites.
- Posting safety devices and signs for the duration of construction.
- Scheduling construction and material deliveries during non-peak traffic hours.

- Covering trenches with steel plates at the end of the work day.
- Coordinating driveway crossings with homeowners.

Construction vehicles hauling workers and material will contribute to traffic in the area along the alignment. Material deliveries will be scheduled during non-peak traffic hours to minimize impacts on local traffic. Construction material will be off-loaded and stockpiled at a location to be determined.

If materials need to be unloaded along the road right-of-way, flagmen will be posted for traffic control. When this occurs, minor traffic delays can be expected but should not last for more than a few minutes.

The discharge procedure and disposal of chlorinated water will be performed in accordance with Department of Health standards (Chapter 55, Water Pollution Control, Hawaii Administrative Rules) to safeguard public health and the environment.

Water and chlorinated water to be discharged following pressure testing and disinfection respectively, will not adversely impact environmental resources along the water line alignment. Department of Water Supply standards for disinfection include flushing the system adequately with chlorinated water of at least 50 mg/l concentration; retaining the chlorinated water inside the pipe overnight; and exposing interior surfaces of the pipe with chlorinated water (300 mg/l) for three hours. An NPDES Permit may be required for the discharge of hydrotesting and chlorinated water into the environment. The contractor will be responsible for following all State and/or County laws, regulations, and procedures including applying for and receiving any NPDES Permit that may be required.

The project will not result in adverse impacts to human health and environmental effects to the community.

The cost of the project is estimated at \$0.7 million and will be funded by the Department of Water Supply, County of Hawaii through a loan from the U.S. Department of Agriculture, Rural Utilities Service.

The transfer of service connections from the old to the new pipeline and the installation of new water meters will be performed by the Contractor. The customer would be responsible for service connections beyond the water meter.

#### **B. Long-term Impacts**

The proposed Andrade Camp Water System Improvements will help to implement the Department of Water Supply Water Master Plan for the Hakalau Honomu-Pepeekeo Water System. The new water line will provide a reliable source of potable water to customers and provide fire protection flow. The new water line also will help to reduce the volume of potable water lost to leakage.

The new water line is not located in an environmentally sensitive area and is proposed to be constructed along existing rights-of-way previously disturbed by construction and habitation activities.

The project does not propose a change in the use of agricultural land which is considered prime agricultural land or farmland by the State Department of Agriculture. All



improvements will be confined to existing road easements. Productive farmland will not be lost as a result of the project.

The buried water line will not result in long-term impacts on air quality, the acoustical environment, historic resources, and flora and fauna. The water line will not be visible to the general public thus there should be no visual impacts or impacts on open space values. The buried line should not contribute surface runoff to the project area.

The increase in water capacity should not stimulate population growth and development in the immediate area. The proposed improvements will replace an existing water line with a larger line. The increase in pipe size is to provide for adequate fire flow rather than to accommodate population growth in the area.

The General Plan Land Use Pattern Allocation Guide Map (Map No.9) depicts Pepeekeo as a growing community comprised of low-density residential uses, existing multi-family developments, and small community-based commercial activities. An area for industrial activities is proposed along the coast at the old Pepeekeo mill site. Agriculture is still important to the region and much land is designated Important Agriculture Land to promote this endeavor. The General Plan also notes that agricultural zoned land could support residential-agricultural development which would allow for a mix of residential development and small-scale agricultural activities.

The current residential zoning for Andrade Camp (RS-7.5), the Ag-20 zoning for adjoining agricultural lands, and the residential zoning (RS-10) for land to the south of Andrade Camp should maintain the low-density residential/agriculture character in a manner consistent with the low-density land use pattern planned for this section of Pepeekeo.

## ALTERNATIVES TO THE PROPOSED ACTION

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4

### A. No Action

The no action alternative would maintain the status quo of the existing water line and preclude the occurrence of all environmental impacts, short and long-term, beneficial and adverse described in this Assessment. A No Action alternative would curtail Department of Water Supply initiatives to improve water systems under its jurisdiction.

### 2. Alternative Pipeline Size

A four-inch (4") ductile iron pipe in lieu of a 6" ductile iron pipe was considered. However, the smallest allowable pipe size, which will provide adequate fire protection in accordance with Department of Water Supply standards, is a 6-inch pipeline. Although a 6-inch pipeline costs more than the 4-inch pipeline, the Department will proceed with the 6-inch pipeline installation. The Department believes that upgrading to provide for adequate fire flow for the area residents overrides the construction cost differential. There should be no significant difference in short and long-term environmental impacts on the physical environment between installing a 4-inch or 6-inch pipeline.

## PERMITS AND APPROVALS

5

Permits and approvals required for the project are listed below. Other permits and approvals may be required depending on final construction plans.

<u>AUTHORITY</u>	<u>PERMIT/APPROVAL</u>
County of Hawaii	
Building Department	Grubbing, Grading and Stockpiling
State of Hawaii	
Department of Health	Variance from Pollution Controls

**AGENCIES AND ORGANIZATIONS TO BE CONSULTED  
IN THE ASSESSMENT PROCESS**

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**6**

**County of Hawaii**

Department of Planning  
Department of Public Works

**State of Hawaii**

Department of Agriculture  
Department of Health  
Office of Environmental Quality Control  
Department of Land and Natural Resources  
State Historic Preservation Division

**Others**

Continental Pacific  
Richard Ha  
The Honorable Dominic Yagong  
The Honorable Lorraine Inouye  
The Honorable Dwight Takamine  
Hilo Public Library  
Laupahoehoe Public and School Library

## DETERMINATION OF SIGNIFICANCE

7

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). The relationship of the proposed project to these criteria is discussed below.

- 1) **Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;**

Archaeological features were not observed on the ground surface of the project area. Should subsurface features be unearthed during construction, work in the immediate area will cease and historic authorities notified for disposition of the finds.

- 2) **Curtails the range of beneficial uses of the environment;**

The proposed project will not curtail the beneficial use of the environment.

- 3) **Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;**

The project does not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

- 4) **Substantially affects the economic or social welfare of the community or State;**

The project will not substantially affect the economic or social welfare of the community or State. The project will, however, provide a reliable source of municipal water for consumption and fire flow protection for Department of Water Supply customers in the project area.

- 5) **Substantially affects public health;**

Public health will not be adversely affected during and after completion of construction.

- 6) **Involves substantial secondary impacts, such as population changes or effects on public facilities;**

Substantial secondary impacts are not anticipated.

- 7) **Involves a substantial degradation of environmental quality;**

A substantial degradation of environmental quality is not anticipated.

- 8) **Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;**

The project does not involve a commitment for a larger action.

**9) Substantially affects a rare, threatened or endangered species, or its habitat;**

No rare, threatened or endangered flora or fauna were observed within and alongside the water line alignment.

**10) Detrimentally affects air or water quality or ambient noise levels;**

Noise and dust will be generated during construction but should be temporary at any one location as work proceeds along the alignment. The contractor will implement measures to minimize noise and dust generation. All construction activities will comply with air quality and noise pollution regulations of the State Department of Health.

Best Management Practices (BMPs) will be implemented for drainage and erosion control during construction.

**11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;**

The proposed improvements are not located in an environmentally sensitive area. In general, the project limits have been disturbed by man in the past through construction and habitation activities.

**12) Substantially affects scenic vistas and view planes identified in county or state plans or studies; or,**

The underground water line will not be visible and therefore should not affect scenic vistas, view planes, and open space resources from public viewing places.

**13) Requires substantial energy consumption.**

Substantial energy consumption is not anticipated.

## REFERENCES

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Department of Agriculture, State of Hawaii, 1977. *Agricultural Lands of Importance to the State of Hawaii (Map)*.

Department of Water Supply, County of Hawaii. December 1980. *Water Master Plan Island of Hawaii*.

Federal Emergency Management Agency. November 2000. *Flood Insurance Rate Map, City and County of Honolulu*. Community Panel Nos. 15003C0270E and 15003C0360E.

Park, Gerald. 2006. *Field Observation*.

U.S. Department of Agriculture, Soil Conservation Service. August 1972. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. In Cooperation with The University of Hawaii Agricultural Experiment Station. U.S. Government Printing Office, Washington D.C.

APPENDIX A  
COASTAL ZONE MANAGEMENT REVIEW



Harry Kim  
Mayor



Christopher J. Yuen  
Director  
Brad Kurokawa, ASLA  
LEED® AP  
Deputy Director

County of Hawaii  
PLANNING DEPARTMENT  
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043  
(808) 961-8288 • FAX (808) 961-8742

May 14, 2007

Mr. Milton D. Pavao, P.E.  
County of Hawaii  
Department of Water Supply  
345 Kekuanaoa Street, Suite 20  
Hilo HI 96720

Dear Mr. Pavao,


Coastal Zone Management Review  
Project: Andrade Camp Water System Improvements (DWS Job No. 2006-889)  
Tax Map Key: 2-8-4;5; 2-8-7:16-24, 26-38, 41, 46-47, 49 & 90

This is in response to your May 4, 2007 memorandum.

The subject parcels are not located in the County's Special Management Area (SMA).  
As SMA rules and regulations are not applicable, no SMA permits are required.

If you have questions, please feel free to contact Esther Imamura of this office at  
961-8288, extension 257.

Sincerely,

  
CHRISTOPHER J. YUEN  
Planning Director

ETI:cd  
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xc: Ms. Esther Imamura, Long Range Planning